



11-26-03

SLU 4554.1
PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of Shelley Minteer et al.

Group Art Unit 1745

Serial No. 10/617,452

Filed July 11, 2003

Confirmation No. 4859

For ENZYME IMMOBILIZATION FOR USE IN BIOFUEL CELLS AND SENSORS

Examiner To Be Assigned

November 25, 2003

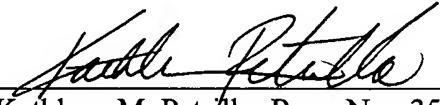
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In accordance with 37 C.F.R. 1.97 and 1.98 and MPEP 609, and in compliance with the * duty of disclosure set forth in 37 C.F.R. 1.56, applicants submit the attached PTO/SB/08A for consideration by the Patent and Trademark Office in the above-entitled application and to be made of record therein. In accordance with the Pre-OG notice of July 11, 2003 partially waiving the requirements of 37 C.F.R. 1.98(a)(2)(i), copies of the U.S. patent documents are not supplied. Applicants submit herewith copies of the foreign patent documents/literature references.

Respectfully submitted,



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*Attachments

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INFORMATION DISCLOSURE
STATEMENT BY APPLICANT

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Complete if Known

Application Number	10/617,452				
Filing Date	July 11, 2003				
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First Named Inventor	Shelley Minteer				
Group Art Unit	1745				
Examiner Name	To Be Assigned				
Sheet	2	of	4	Attorney Docket No.	SLU 4554.1

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY
		Number	Kind Code ² (if known)		
	1	4,117,202		Beck, Timothy A.	09-26-1978
	2	4,490,464		Gorton, Lo G. et al.	12-25-1984
	3	4,705,503		Dorman, Frank D. et al.	11-10-1987
	4	4,761,209		Bonaventura, Joseph et al.	08-02-1988
	5	5,264,092		Skotheim, Terje et al.	11-23-1993
	6	5,393,615		Corey, Paul F. et al.	02-28-1995
	7	6,294,281	B1	Heller, Adam	09-25-2001
	8	6,460,733	B2	Acker, William P. et al.	10-08-2002
	9	6,500,571	B2	Liberatore, Michael James et al.	12-31-2002
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	11	20020025456	A1	Gieshoff, Jurgen et al.	02-28-2002
	12	20020025469	A1	Heller, Adam	02-28-2002
	13	20020127440	A1	Yamamoto, Noriyuki et al.	09-12-2002
	14	20030039868	A1	Liberatore, Michael James et al.	02-27-2003
	15	20030087144	A1	Sun, Hoi-Cheong Steve et al.	05-08-2003

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¹Unique citation designation number. ²See attached Kinds of U.S. Patent Documents. ³Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶Applicant is to place a check mark here if English language Translation is attached.

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FOREIGN PATENT DOCUMENTS

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		Office	Number ⁴	Kind Code ² (if known)			

OTHER ART - NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ⁶
	16	BLAEDEL, W.J.; JENKINS, ROGER A., "Study of the Electrochemical Oxidation of Reduced Nicotinamide Adenine Dinucleotide," <i>Analytical Chemistry</i> 47 (1975) 1337-1338.	
	17	DAVIS, GRAHAM; HILL, H. ALLEN O.; ASTON, WILLIAM J.; HIGGINS, I. JOHN; TURNER, ANTHONY P.F., "Bioelectrochemical Fuel-Cell and Sensor Based on a Quinoprotein, Alcohol-Dehydrogenase," <i>Enzyme and Microbial Technology</i> 5 (1983) 383-388.	
	18	GREEN, DAVID W.; SUN, HONG-WEI; PLAPP, BRYCE V., "Inversion of the Substrate Specificity of Yeast Alcohol Dehydrogenase," <i>Journal of Biological Chemistry</i> 268 (1993) 7792-7798.	
	19	PALMORE, G. TAYHAS R.; BERTSCHY, HUGO; BERGENS, STEVEN H.; WHITESIDES, GEORGE M., "A Methanol/Dioxygen Biofuel Cell that Uses NAD+-Dependent Dehydrogenases as Catalysts: Application of an Electro-Enzymic Method to Regenerate Nicotinamide Adenine Dinucleotide at Low Overpotentials," <i>Journal of Electroanalytical Chemistry</i> 443 (1998) 155-161.	
	20	PALMORE, G. TAYHAS R.; WHITESIDES, GEORGE M., "Microbial and Enzymatic Biofuel Cells," in ACS Symposium Series 566 (1994) 271-290.	

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Sheet	4	of	4	Attorney Docket No.	SLU 4554.1
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21	PLOTKIN, E.V., HIGGINS, I.J.; HILL, H.A.O., "Methanol Dehydrogenase Bioelectrochemical Cell and Alcohol Detector," <i>Biotechnology Letters</i> , Vol. 3, No. 4 (1981) 187-192.
22	SCHRENK, MATTHEW J.; VILLIGRAM, ROBERT E.; TORRENCE, NICHOLAS J.; BRANCATO, SAM J.; MINTEER, SHELLEY D., "Effect of Mixture Casting Nafion® with Quaternary Ammonium Bromide Salts on the Ion-Exchange Capacity and Mass Transport in the Membranes," <i>Journal of Membrane Science</i> 205 (2002) 3-10.
23	THOMAS, TRISHA J.; PONNUSAMY, KARTHIK E.; CHANG, NANCY M.; GALMORE, KIM; MINTEER, SHELLEY D., "Effects of Annealing on Mixture-Cast Membranes of Nafion® and Quaternary Ammonium Bromide Salts," <i>Journal of Membrane Science</i> , Vol. 213, (2003) 55-66.
24	WORTHINGTON, V., "Worthington Alcohol Dehydrogenase," Worthington Enzyme Manual (1988) 16, pp. 1-22, http://www.worthington-biochem.com/ADH/default.html .
25	YUE, P.L.; LOWTHER, K., "Enzymatic Oxidation of C1 Compounds in a Biochemical Fuel Cell," <i>Chemical Engineering Journal</i> , 33B (1986) B69-B77.
26	ZHOU, DONG-MEI; FANG, HUI-QUN; CHEN, HONG-YUAN; JU, HUANG-XIAN; WANG, YUN, "The Electrochemical Polymerization of Methylene Green and its Electrocatalysis for the Oxidation of NADH," <i>Analytica Chimica Acta</i> 329 (1996) 41-48.

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